

<b>Air Conditioner ERP Test Report</b>	
<b>Report Number</b> .....	4907253.51
<b>Tested by (name + signature)</b> :	Linda Li <i>Linda Li</i>
<b>Approved by (name + signature)</b> .....	Jacky Zhang <i>Jacky Zhang</i>
<b>Date of issue</b> .....	2023-10-24
<b>Total number of pages</b> .....	19 Pages
<b>Testing Laboratory</b> .....	DEKRA Testing and Certification (Shanghai) Ltd., Guangzhou branch
<b>Address</b> .....	Block 5, No.3, Qiyun Road, Huangpu District, Guangzhou, Guangdong, China
<b>Applicant's name</b> .....	TCL Air conditioner (Zhong Shan) Co.,Ltd.
<b>Address</b> .....	No.59.Nantou Road West, Nantou Town Zhongshan City, Guangdong P.R. China
<b>Test specification:</b>	
<b>Standard</b> .....	EN 14511-1:2022, EN 14511-2:2022, EN 14511-3:2022, EN 14511-4:2022, EN 14825:2022, EN 12102-1:2022
<b>Test procedure</b> .....	(EU) No 206/2012, (EU) No 626/2011, EU 2017/254, EU 2016/2282
<b>Non-standard test method</b> .....	N/A
<b>Test Report Form No.</b> .....	EN 14825-2018 V1.0
<b>Test Report Form(s) Originator</b>	DEKRA
<b>Test item description</b> .....	
<b>Trade Mark</b> .....	TCL
<b>Manufacturer</b> .....	Same as the applicant
<b>Factory</b> .....	Same as the applicant
<b>Model/Type reference</b> .....	TAC-12CHSD/FBI
<b>Ratings</b> .....	220-240 V~ ,50 Hz, see rating label

**Summary of testing:****Tests performed (Test items):**

Cooling capacity

Heating capacity

Standby/off, thermostat off mode power consumption



**Testing location:**

TCL Air conditioner (Zhong Shan) Co.,Ltd.

No.59.Nantou Road West, Nantou Town Zhongshan City, Guangdong P.R. China

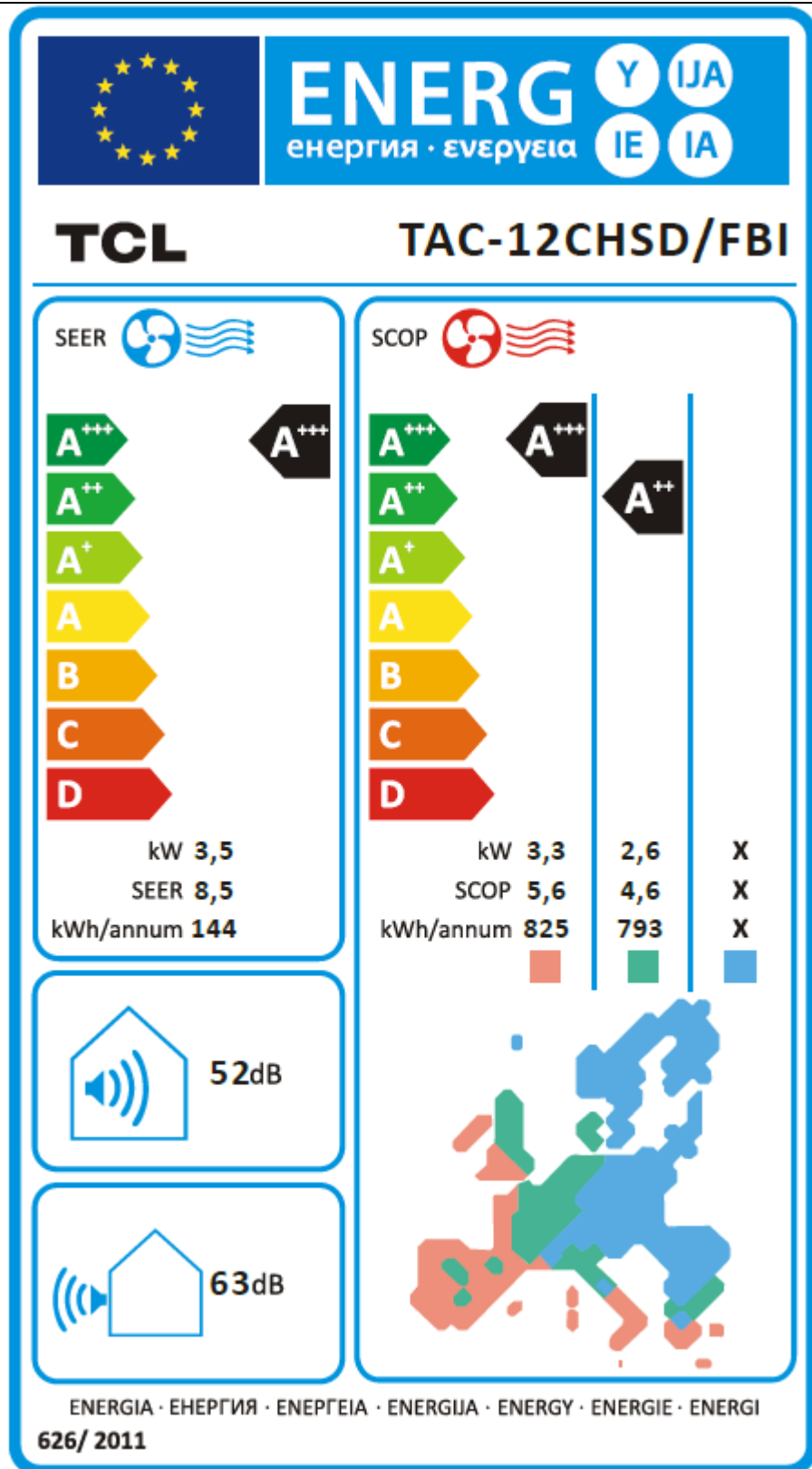
**Copy of marking plate:**

The artwork below may be only a draft. The use of certification marks on a product must be authorized by the respective NCBs that own these marks.

<b>TCL</b>				
<b>SPLIT TYPE AIR CONDITIONER</b>				
<b>TAC-12CHSD/FBI</b>				
<b>Model</b>	<b>Indoor</b>	TAC-12CHSD/FBI		
	<b>Outdoor</b>	TAC-12CHSD/FBI		
		<b>Cooling</b>	<b>Heating</b>	
<b>Capacity</b>		3500W (150~4200)	3700W (150~5200)	
<b>Current</b>		4.1A (0.5~8.6)	3.8A (0.5~9.0)	
<b>Rated Current (IEC/ EN60335)</b>		8.6A	9.0A	
<b>Power Input</b>		920W (75~1850)	840W (75~2000)	
<b>Rated Power Input (IEC/ EN60335)</b>		1850W	2000W	
<b>Indoor Air Volume</b>		680m <sup>3</sup> /h	680m <sup>3</sup> /h	
<b>Max allowable pressure</b>			3.7MPa	
<b>Max. Pressure</b>	<b>Discharge</b>		3.7MPa	
	<b>Suction</b>		1.2MPa	
<b>Sound Power</b>	<b>Indoor</b>		52dB(A)	
	<b>Outdoor</b>		63dB(A)	
<b>Weight</b>	<b>Indoor</b>		11kg	
	<b>Outdoor</b>		25kg	
<b>Rated Voltage</b>		220-240V~		
<b>Rated Frequency</b>		50Hz		
<b>Refrigerant/Charge/GWP</b>		R32/0.710kg/675		
<b>CO<sub>2</sub> equivalent</b>		0.544 tonnes		
<b>Contains fluorinated greenhouse gases</b>				
<b>Outdoor Unit Water Proof Protection IPX4</b>				

Rating label (draft version only for indicating the ratings)

(Revised on 2023-12-25)



Energy label (draft version only for indicating the ratings)

<b>Test item particulars</b> ..... :	
Classification of installation and use .....	Fixed appliance
Supply Connection .....	Non-detachable power supply cord with plug

<b>Possible test case verdicts:</b>	
- test case does not apply to the test object..... :	N/A
- test object does meet the requirement .....	P (Pass)
- test object does not meet the requirement .....	F (Fail)
<b>Testing</b> ..... :	
Date of receipt of test item .....	2023-09-10
Date (s) of performance of tests .....	2023-09-10 to 2023-09-30

<b>General remarks:</b>
<p>The test results presented in this report relate only to the object tested.  This report shall not be reproduced, except in full, without the written approval of the Issuing testing laboratory.  "(see Enclosure #)" refers to additional information appended to the report.  "(see appended table)" refers to a table appended to the report.</p> <p>Throughout this report, a dot is used as the decimal separator.</p> <p>The measurement result is considered in conformance with the requirement if it is within the prescribed limit, It is not necessary to calculate the uncertainty associated with the measurement result.  The test results presented in this report relate only to the object tested.  The information provided by the customer in this report may affect the validity of the results, the test lab is not responsible for it.  This report shall not be reproduced, except in full, without the written approval of the Issuing testing laboratory.  This report is not used for social proof function in China market.</p>

<b>General product information:</b>	
Model number of Unit Under Test	TAC-12CHSD/FBI
Type of System	Split type air conditioner
Air-conditioner Type	Cooling and heating
Power Supply	Single Phase
Refrigerant	R32
Unit Mounting (applicable to non-ducted indoor units only)	Wall mounted
Heat Source (Heating Mode)	Air
Heat Sink (Cooling Mode)	Air-cooled
Does this air conditioner have a variable output compressor?	Yes
Type of compressor	inverter
Maximum continuous frequency for cooling (applicable to inverter driven compressor only) (Hz)	86
Maximum continuous frequency for heating (applicable to inverter driven compressor only) (Hz)	104

<b>Test and verification results</b>			
<b>Clause</b>	<b>Ecodesign requirements - GENERIC ECODESIGN REQUIREMENTS</b>	<b>Result - Remark</b>	<b>Verdict</b>
2a)	From 1 January 2013: Single duct and double duct air conditioners shall correspond to requirements as indicated in Tables 1, 2 and 3		N/A
Table 1	Requirements for minimum energy efficiency		N/A
Table 2	Off mode: Power consumption of equipment in any off-mode condition shall not exceed 1,00 W		N/A
	Standby mode: The power consumption of equipment in any condition providing only a reactivation function, or providing only a reactivation function and a mere indication of enabled reactivation function, shall not exceed 1,00 W.		N/A
	Standby mode: The power consumption of equipment in any condition providing only information or status display, or providing only a combination of reactivation function and information or status display, shall not exceed 2,00 W.		N/A
	Availability of standby and/or off mode Equipment shall, except where this is inappropriate for the intended use, provide off mode and/or standby mode, and/or another condition which does not exceed the applicable power consumption requirements for off mode and/or standby mode when the equipment is connected to the mains power source.		N/A
Table 3	Indoor sound power level no more than 65 dB(A)		N/A
2b)	From 1 January 2013, air conditioners, except single and double duct air conditioners, shall correspond to minimum energy efficiency and maximum sound power level requirements as indicated in Tables 4 and 5		N/A
Table 4	Requirements for minimum energy efficiency		P
Table 5	Requirements for maximum sound power level		P
2c)	From 1 January 2014, air conditioners shall correspond to requirements as indicated in the table 6		P
2d)	From 1 January 2014, single duct and double duct air conditioners and comfort fans shall correspond to requirements as indicated in Table 7		N/A
Table 7	Off mode: Power consumption of equipment in any off-mode condition shall not exceed 0,50 W.		N/A

Clause	Ecodesign requirements - GENERIC ECODESIGN REQUIREMENTS	Result - Remark	Verdict
	Standby mode: The power consumption of equipment in any condition providing only a reactivation function, or providing only a reactivation function and a mere indication of enabled reactivation function, shall not exceed 0,50 W.		N/A
	Standby mode: The power consumption of equipment in any condition providing only information or status display, or providing only a combination of reactivation function and information or status display shall not exceed 1,00 W.		N/A
	Availability of standby and/or off mode Equipment shall, except where this is inappropriate for the intended use, provide off mode and/or standby mode, and/or another condition which does not exceed the applicable power consumption requirements for off mode and/or standby mode when the equipment is connected to the mains power source.		N/A
	Power management When equipment is not providing the main function, or when other energy- using product(s) are not dependent on its functions, equipment shall, unless inappropriate for the intended use, offer a power management function, or a similar function, that switches equipment after the shortest possible period of time appropriate for the intended use of the equipment, automatically into: — standby mode, or — off mode, or — another condition which does not exceed the applicable power consumption requirements for off mode and/or standby mode when the equipment is connected to the mains power source. The power management function shall be activated before delivery.		N/A

Information requirements for air conditioners, except double duct and single duct air conditioners							
Function (indicate if present)				If function includes heating: Indicate the heating season the information relates to. Indicated values should relate to one heating season at a time. Include at least the heating season 'Average'.			
cooling	Y			Average (mandatory)	Y		
heating	Y			Warmer (if designated)	Y		
				Colder (if designated)	N		
Item	symbol	value	unit	Item	symbol	value	unit
Design load				Seasonal efficiency			
cooling	P <sub>designc</sub>	3.500	kW	cooling	SEER	8.50	—
heating/Average	P <sub>designh</sub>	2.600	kW	heating/Average	SCOP/A	4.60	—
heating/Warmer	P <sub>designh</sub>	3.300	kW	heating/Warmer	SCOP/W	5.60	—
heating/Colder	P <sub>designh</sub>	N/A	kW	heating/Colder	SCOP/C	N/A	—
Declared capacity (*) for cooling, at indoor temperature 27(19) °C and outdoor temperature T <sub>j</sub>				Declared energy efficiency ratio (*), at indoor temperature 27(19) °C and outdoor temperature T <sub>j</sub>			
T <sub>j</sub> = 35 °C	P <sub>dc</sub>	3.422	kW	T <sub>j</sub> = 35 °C	EER <sub>d</sub>	4.02	—
T <sub>j</sub> = 30 °C	P <sub>dc</sub>	2.459	kW	T <sub>j</sub> = 30 °C	EER <sub>d</sub>	6.44	—
T <sub>j</sub> = 25 °C	P <sub>dc</sub>	1.591	kW	T <sub>j</sub> = 25 °C	EER <sub>d</sub>	10.47	—
T <sub>j</sub> = 20 °C	P <sub>dc</sub>	0.788	kW	T <sub>j</sub> = 20 °C	EER <sub>d</sub>	16.42	—
Declared capacity (*) for heating/Average season, at indoor temperature 20°C and outdoor temperature T <sub>j</sub>				Declared coefficient of performance (*)/Average season, at indoor temperature 20°C and outdoor temperature T <sub>j</sub>			
T <sub>j</sub> = - 7 °C	P <sub>dh</sub>	2.259	kW	T <sub>j</sub> = - 7 °C	COP <sub>d</sub>	2.95	—
T <sub>j</sub> = 2 °C	P <sub>dh</sub>	1.463	kW	T <sub>j</sub> = 2 °C	COP <sub>d</sub>	4.69	—
T <sub>j</sub> = 7 °C	P <sub>dh</sub>	0.948	kW	T <sub>j</sub> = 7 °C	COP <sub>d</sub>	5.75	—
T <sub>j</sub> = 12 °C	P <sub>dh</sub>	1.128	kW	T <sub>j</sub> = 12 °C	COP <sub>d</sub>	7.37	—
T <sub>j</sub> = bivalent temperature	P <sub>dh</sub>	2.259	kW	T <sub>j</sub> = bivalent temperature	COP <sub>d</sub>	2.95	—
T <sub>j</sub> = operating limit	P <sub>dh</sub>	2.505	kW	T <sub>j</sub> = operating limit	COP <sub>d</sub>	2.42	—
Declared capacity (*) for heating/Warmer season, at indoor temperature 20°C and outdoor temperature T <sub>j</sub>				Declared coefficient of performance (*)/Warmer season, at indoor temperature 20°C and outdoor temperature T <sub>j</sub>			
T <sub>j</sub> = 2 °C	P <sub>dh</sub>	3.331	kW	T <sub>j</sub> = 2 °C	COP <sub>d</sub>	2.97	—
T <sub>j</sub> = 7 °C	P <sub>dh</sub>	2.299	kW	T <sub>j</sub> = 7 °C	COP <sub>d</sub>	5.20	—
T <sub>j</sub> = 12 °C	P <sub>dh</sub>	1.014	kW	T <sub>j</sub> = 12 °C	COP <sub>d</sub>	6.50	—
T <sub>j</sub> = bivalent temperature	P <sub>dh</sub>	3.331	kW	T <sub>j</sub> = bivalent temperature	COP <sub>d</sub>	2.97	—
T <sub>j</sub> = operating limit	P <sub>dh</sub>	3.331	kW	T <sub>j</sub> = operating limit	COP <sub>d</sub>	2.97	—

Declared capacity (*) for heating/Colder season, at indoor temperature 20°C and outdoor temperature Tj				Declared coefficient of performance (*) /Colder season, at indoor temperature 20°C and outdoor temperature Tj			
Tj = - 7 °C	Pdh	N/A	kW	Tj = - 7 °C	COPd	N/A	—
Tj = 2 °C	Pdh	N/A	kW	Tj = 2 °C	COPd	N/A	—
Tj = 7 °C	Pdh	N/A	kW	Tj = 7 °C	COPd	N/A	—
Tj = 12 °C	Pdh	N/A	kW	Tj = 12 °C	COPd	N/A	—
Tj = bivalent temperature	Pdh	N/A	kW	Tj = bivalent temperature	COPd	N/A	—
Tj = operating limit	Pdh	N/A	kW	Tj = operating limit	COPd	N/A	—
Tj = - 15 °C	Pdh	N/A	kW	Tj = - 15 °C	COPd	N/A	—
Bivalent temperature				Operating limit temperature			
heating/Average	Tbiv	-7	°C	heating/Average	Tol	-15	°C
heating/Warmer	Tbiv	2	°C	heating/Warmer	Tol	2	°C
heating/Colder	Tbiv	N/A	°C	heating/Colder	Tol	N/A	°C
Cycling interval capacity				Cycling interval efficiency			
for cooling	Pcycc	N/A	kW	for cooling	EERcyc	N/A	—
for heating	Pcych	N/A	kW	for heating	COPcyc	N/A	—
Degradation co-efficient cooling (**)	Cdc	0.25	—	Degradation co-efficient heating (**)	Cdh	0.25	—
Electric power input in power modes other than 'active mode'				Annual electricity consumption			
off mode	POFF	—	kW	cooling	QCE	144	kWh/a
standby mode	PSB	0.001	kW	heating/Average	QHE	793	kWh/a
thermostat-off mode	PTO	0.008	kW	heating/Warmer	QHE	825	kWh/a
crankcase heater mode	PCK	—	kW	heating/Colder	QHE	—	kWh/a
Capacity control (indicate one of three options)				Other items			
fixed	N			Sound power level (indoor/outdoor)	LWA	52/63	dB(A)
staged	N			Global warming potential	GWP	675 (R32)	kgCO2 eq.
variable	Y			Rated air flow (indoor/outdoor)	—	680/700	m3/h

<b>Information requirements for single duct and double duct air conditioners.</b>			
Information to identify the model(s) to which the information relates to [fill in as necessary]			
Description	Symbol	Value	Unit
Rated output power for cooling	$P_{rated}$ for cooling	N/A	kW
Rated output power for heating	$P_{rated}$ for heating	N/A	kW
Rated power input for cooling	$P_{EER}$	N/A	kW
Rated power input for heating	$P_{COP}$	N/A	kW
Rated Energy efficiency ratio	$EER_{rated}$	N/A	—
Rated Coefficient of performance	$COP_{rated}$	N/A	—
Thermostat-off mode power consumption	$P_{TO}$	N/A	W
Standby mode power consumption	$P_{SB}$	N/A	W
Off mode power consumption	$P_{OFF}$	N/A	W
Seasonal electricity consumption for double ducts (DD): hourly electricity consumption for single ducts (SD): hourly electricity consumption	Q	N/A	kWh/60min.
Sound power level (indoor only)	$L_{WA}$	N/A	dB(A)
Global warming potential of refrigerant	GWP	N/A	kgCO <sub>2</sub> eq.
Contact details for obtaining more information	N/A		

Table for cooling test data

General test conditions/part load	unit	A35/A27(100%)	A30/A27(74%)	A25/A27(47%)	A20/A27(21%)
-	-	A	B	C	D
Barometric	KPa	100.56	100.57	100.66	101.07
Voltage	V	230.2	230.2	230.2	230.3
Current input	A	3.90	2.72	1.15	0.42
Power input	kW	0.852	0.382	0.152	0.048
Test conditions indoor unit					
Air inlet temperature, DB/WB	°C	27.00/19.01	27.00/19.00	26.99/18.99	27.00/18.99
Air outlet temperature, DB/WB	°C	N/A	N/A	N/A	N/A
Test conditions outdoor unit					
Air inlet temperature, DB/WB	°C	35.01/24.01	30.01/22.00	25.00/20.00	20.00/15.01
Indoor total cooling capacity	kW	3.422	2.459	1.591	0.788
Outdoor total cooling capacity	kW	3.367	2.407	1.548	0.781
Balance ratio	%	1.6	2.2	2.8	0.9
Power input	kW	0.852	0.382	0.152	0.048

Energy efficiency ratio	-	4.02	6.44	10.50	16.60
Compressor frequency	Hz	52	31	17	8

Table for heating test data (Average)

General test conditions/part load	unit	A-10/A20 (100%)	A-7/A20 (88%)	A-7/A20 (88%)	A2/A20 (54%)	A7/A20 (35%)	A12/A20 (15%)
-	-	E	F	A	B	C	D
Barometric	KPa	100.32	100.31	100.31	100.29	100.21	100.19
Voltage	V	230.2	230.2	230.2	230.1	230.2	230.3
Current input	A	4.69	3.52	3.52	2.24	1.22	1.17
Power input	kW	1.035	0.766	0.766	0.312	0.165	0.153
Test conditions indoor unit							
Air inlet temperature, DB/WB	°C	20.00/15.00	20.00/15.00	20.00/15.00	20.00/15.00	20.00/15.00	20.00/15.00
Air outlet temperature, DB/WB	°C	28.96/18.09	32.62/19.31	32.62/19.31	25.17/16.80	24.03/16.38	24.82/16.68
Test conditions outdoor unit							
Air inlet temperature, DB/WB	°C	-10.00/-9.98	-7.02/-7.18	-7.02/-7.18	1.99/1.00	7.04/6.01	12.01/11.00
Summary of the test results							
Total heating capacity	kW	2.505	2.259	2.259	1.463	0.948	1.128
Power input	kW	1.035	0.766	0.766	0.312	0.165	0.153
Coefficiency of performance	-	2.42	2.95	2.95	4.68	5.55	7.35
Compressor frequency	Hz	75	60	60	30	17	17

Table for heating test data (Warmer)

General test conditions/part load	unit	--	--	--	A2/A20 (100%)	A7/A20 (64%)	A12/A20 (29%)
-	-	E	F	A	B	C	D
Barometric	KPa	100.71	100.71	--	100.71	100.91	101.22
Voltage	V	230.2	230.2	--	230.2	230.4	230.2
Current input	A	5.04	5.04	--	5.04	3.23	1.27
Power input	kW	1.120	1.120	--	1.120	0.460	0.153
Test conditions indoor unit							
Air inlet temperature, DB/WB	°C	20.00/15.00	20.00/15.00	--	20.00/15.00	20.00/15.00	20.00/15.00
Air outlet temperature,	°C	32.56/19.14	32.56/19.14	--	32.56/19.14	N/A	N/A

DB/WB							
Test conditions outdoor unit							
Air inlet temperature, DB/WB	°C	1.97/1.01	1.97/1.01	--	1.97/1.01	7.00/5.96	12.01/10.94
Summary of the test results	-	A2/A20 (100%)	A2/A20 (100%)	--	A2/A20 (100%)	A7/A20 (64%)	A12/A20 (29%)
Indoor total cooling capacity	kW	3.331	3.331	--	3.331	2.334	1.128
Outdoor total cooling capacity	kW	N/A	N/A	--	N/A	2.387	1.131
Balance ratio	%	N/A	N/A	--	N/A	-2.2	-0.3
Power input	kW	1.120	1.120	--	1.120	0.460	0.153
Co-efficiency of performance	-	2.96	2.96	--	2.96	5.07	7.37
Compressor frequency	Hz	80	80	--	80	42	17

SEER calculation:

	Outdoor air	measured Cooling Capacity	Input Power	EER <sub>DC/meas</sub>	Cd	EER <sub>PL</sub>
	°C	kW	kW			
A	35	3.422	0.852	4.02	0.25	4.02
B	30	2.459	0.382	6.44	0.25	6.44
C	25	1.591	0.152	10.47	0.25	10.47
D	20	0.788	0.048	16.42	0.25	16.42

Tj	Part load ratio	Cooling demand Pc(Tj)	Bin hours hj	Measured		Corrected		EER(Tj) Cd=0,25	hj x Pc(Tj)	hj x Pc(Tj) / EERbin(Tj)
				Cooling capacity	Capacity ratio	Measured EER	EER <sub>PL</sub>			
17	5.3%	0.180	205					16.42	37	2
18	10.5%	0.360	227					16.42	82	5
19	15.8%	0.540	225					16.42	122	7
D 20	21.1%	0.720	225	0.788	0.914	16.42	16.42	16.42	162	10
21	26.3%	0.901	216					15.23	195	13
22	31.6%	1.081	215					14.04	232	17
23	36.8%	1.261	218					12.85	275	21
24	42.1%	1.441	197					11.66	284	24
C 25	47.4%	1.621	178	1.591	1.019	10.47	10.47	10.47	289	28
26	52.6%	1.801	158					9.66	285	29
27	57.9%	1.981	137					8.86	271	31
28	63.2%	2.161	109					8.05	236	29
29	68.4%	2.341	88					7.24	206	28
B 30	73.7%	2.521	63	2.459	1.025	6.44	6.44	6.44	159	25
31	78.9%	2.702	39					5.95	105	18
32	84.2%	2.882	31					5.47	89	16
33	89.5%	3.062	24					4.98	73	15
34	94.7%	3.242	17					4.50	55	12
A 35	100.0%	3.422	13	3.422	1.000	4.02	4.02	4.02	44	11
36	105.3%	3.602	9					4.02	32	8
37	110.5%	3.782	4					4.02	15	4
38	115.8%	3.962	3					4.02	12	3
39	121.1%	4.142	1					4.02	4	1
40	126.3%	4.323	0					4.02	0	0
									3264	358
									SEER <sub>on</sub>	9.13
									SEER	8.86

Equiv. H <sub>ce</sub>	350	h				Q <sub>c</sub> /SEER <sub>on</sub>	131.1972
H <sub>TO</sub>	221	h	P <sub>TO</sub>	0.008	kW	HTO*PTO	1.768 kwh
H <sub>SB</sub>	2142	h	P <sub>SB</sub>	0.001	kW	HSB*PSB	2.142 kwh
H <sub>CK</sub>	2672	h	P <sub>CK</sub>	0	kW	HCK*PCK	0 kwh
H <sub>OFF</sub>	0	h	P <sub>OFF</sub>	0	kW	HOFF*POFF	0 kwh
						Q <sub>ce</sub>	135.1072
P <sub>designc</sub>	3.422	kW					
Q <sub>c</sub>	1197.7	kWh					

SCOP calculation (Average):

	Outdoor air °C	Measured Heating Capacity kW	Input Power kW	COP <sub>DC/meas</sub>	Cd	COP <sub>PL</sub> (COP bin (Tj))
A	-7	2.259	0.766	2.95	0.25	2.95
B	2	1.463	0.312	4.69	0.25	4.69
C	7	0.948	0.165	5.75	0.25	5.75
D	12	1.128	0.153	7.37	0.25	6.17
E	-10	2.505	1.035	2.42	0.25	2.42
F	-7	2.259	0.766	2.95	0.25	2.95

Tj	Part load ratio	Heating demand Ph(Tj)	Bin hours	Heat load covered by the heat pump			Capacity ratio	COP <sub>PL</sub>	COP <sub>bin</sub> (Tj)	h <sub>j</sub> x Ph(Tj)	h <sub>j</sub> * [(Ph(Tj) - elbu(Tj)) / COP <sub>bin</sub> (Tj)]		COP (including backup heater)	h <sub>j</sub> * [(Ph(Tj) - elbu(Tj)) / COP <sub>bin</sub> (Tj)]	
				elbu(Tj)	elbu(Tj)	ratio					elbu(Tj)	n(Tj)		elbu(Tj)	n(Tj)
-10	100.0%	2.554	1	2.505	0.049	1.02	2.42	2.42	3	1	2.36	3	1.04		
-9	96.2%	2.455	25	2.423	0.032	1.01		2.60	61	24	2.54	61	23.33		
-8	92.3%	2.357	23	2.341	0.016	1.01		2.77	54	20	2.74	54	19.42		
A -7	88.5%	2.259	24	2.259	0.000	1.00	2.95	2.95	54	18	2.95	54	18.38		
-6	84.6%	2.161	27	2.161	0.000	1.00		3.14	58	19	3.14	58	18.57		
-5	80.8%	2.063	68	2.063	0.000	1.00		3.34	140	42	3.34	140	42.05		
-4	76.9%	1.964	91	1.964	0.000	1.00		3.53	179	51	3.53	179	50.65		
-3	73.1%	1.866	89	1.866	0.000	1.00		3.72	166	45	3.72	166	44.62		
-2	69.2%	1.768	165	1.768	0.000	1.00		3.92	292	74	3.92	292	74.50		
-1	65.4%	1.670	173	1.670	0.000	1.00		4.11	289	70	4.11	289	70.30		
0	61.5%	1.571	240	1.571	0.000	1.00		4.30	377	88	4.30	377	87.66		
1	57.7%	1.473	280	1.473	0.000	1.00		4.50	413	92	4.50	413	91.76		
B 2	53.8%	1.375	320	1.375	0.000	1.00	4.69	4.69	440	94	4.69	440	93.84		
3	50.0%	1.277	357	1.277	0.000	1.00		4.90	456	93	4.90	456	93.02		
4	46.2%	1.179	356	1.179	0.000	1.00		5.11	420	82	5.11	420	82.08		
5	42.3%	1.080	303	1.080	0.000	1.00		5.32	327	61	5.32	327	61.50		
6	38.5%	0.982	330	0.982	0.000	1.00		5.53	324	59	5.53	324	58.57		
C 7	34.6%	0.884	326	0.884	0.000	1.00	5.75	5.75	288	50	5.75	288	50.16		
8	30.8%	0.786	348	0.786	0.000	1.00		5.83	273	47	5.83	273	46.90		
9	26.9%	0.688	335	0.688	0.000	1.00		5.92	230	39	5.92	230	38.93		
10	23.1%	0.589	315	0.589	0.000	1.00		6.00	186	31	6.00	186	30.93		
11	19.2%	0.491	215	0.491	0.000	1.00		6.09	106	17	6.09	106	17.35		
D 12	15.4%	0.393	169	0.393	0.000	1.00	6.17	6.17	66	11	6.17	66	10.76		
13	11.5%	0.295	151	0.295	0.000	1.00		6.2565	44	7	6.26	44	7.11		
14	7.7%	0.196	105	0.196	0.000	1.00		6.3417	21	3	6.34	21	3.25		
15	3.8%	0.098	74	0.098	0.000	1.00		6.4269	7	1	6.43	7	1.13		
16	0.0%		4910												
										summation	5275	1139	5274	1138	
										SCOP <sub>on</sub>	4.63		SCOP <sub>net</sub>	4.64	
										SCOP	4.62				

H <sub>he</sub>	1400	h			Q <sub>h</sub> /SCOP <sub>on</sub>	771.984	
H <sub>TO</sub>	179	h	P <sub>TO</sub>	0.008	kW	HTO*PTO	1.432
H <sub>SB</sub>	0	h	P <sub>SB</sub>	0.001	kW	HSB*PSB	0
H <sub>CK</sub>	179	h	P <sub>CK</sub>	0	kW	HCK*PCK	0
H <sub>OFF</sub>	0	h	P <sub>OFF</sub>	0	kW	H <sub>OFF</sub> *P <sub>OFF</sub>	0
						Q <sub>he</sub>	773.416
P <sub>designh</sub>	2.554	kW					
Q <sub>h</sub>	3575.113	kWh					

SCOP calculation (Warmer):

	Outdoor air °C	measured Cooling Capacity kW	Input Power kW	COP <sub>DC/meas</sub>	Cd	COP <sub>PL</sub> (COP <sub>bin</sub> (Tj))
B	2	3.331	1.120	2.97	0.25	2.97
C	7	2.334	0.460	5.07	0.25	5.07
D	12	1.128	0.153	7.37	0.25	7.08
E	2	3.331	1.120	2.97	0.25	2.97
F	2	3.331	1.120	2.97	0.25	2.97

	Tj	Part load ratio	Heating demand Ph(Tj)	Bin hours hj	Heat load covered by the		Capacity ratio	COP <sub>d</sub>	COP <sub>bin</sub> (Tj)	hj x Ph(Tj)	*[(Ph(Tj)-elbu(Tj))/COPbin(Tj)+elbu(Tj)]	COP (including backup heater)	hj*[Ph(Tj)-elbu(Tj)]	hj*[Ph(Tj)-elbu(Tj)]/COPbin(Tj)
					heat pump	elbu(Tj)								
B	2	100.0%	3.331	3	3.331	0.000	1.00	2.97	2.97	10	3	2.97	10.0	3.4
	3	92.9%	3.093	22	3.132	0.000	0.99		3.39	68	20	3.39	68.0	20.0
	4	85.7%	2.855	63	2.932	0.000	0.97		3.81	180	47	3.81	179.9	47.2
	5	78.6%	2.617	63	2.733	0.000	0.96		4.23	165	39	4.23	164.9	38.9
	6	71.4%	2.379	175	2.533	0.000	0.94		4.65	416	89	4.65	416.4	89.5
C	7	64.3%	2.141	162	2.334	0.000	0.92	5.07	5.07	347	68	5.07	346.9	68.4
	8	57.1%	1.903	259	2.093	0.000	0.91		5.48	493	90	5.48	493.0	90.0
	9	50.0%	1.666	360	1.852	0.000	0.90		5.88	600	102	5.88	599.6	102.0
	10	42.9%	1.428	428	1.610	0.000	0.89		6.28	611	97	6.28	611.0	97.3
	11	35.7%	1.190	430	1.369	0.000	0.87		6.68	512	77	6.68	511.5	76.6
D	12	28.6%	0.952	503	1.128	0.000	0.84	7.08	7.08	479	68	7.08	478.7	67.6
	13	21.4%	0.714	444	0.887	0.000	0.80		7.49	317	42	7.49	316.9	42.3
	14	14.3%	0.476	384	0.646	0.000	0.74		7.89	183	23	7.89	182.7	23.2
	15	7.1%	0.238	294	0.404	0.000	0.59		8.29	70	8	8.29	70.0	8.4
	16	0.0%	0.000	0	0.163	0.000	0.00		8.69	0	0			
											SCOP <sub>on</sub>	5.74	SCOP <sub>net</sub>	5.74
											SCOP	5.70		

Equiv. H	1400	h					Q <sub>h</sub> /SCOP <sub>on</sub>	811.9644
H <sub>TO</sub>	755	h	P <sub>TO</sub>	0.008	kW	HTO*PTO	6.04 kwh	
H <sub>SB</sub>	0	h	P <sub>SB</sub>	0.001	kW	HSB*PSB	0 kwh	
H <sub>CK</sub>	755	h	P <sub>CK</sub>	0	kW	HCK*PCK	0 kwh	
H <sub>OFF</sub>	0	h	P <sub>OFF</sub>	0	kW	HOFF*POFF	0 kwh	
							Q <sub>no</sub>	818.0044
P <sub>designh</sub>	3.331	kW						
Q <sub>H</sub>	4663.4	kWh						

Item	Measured value	Rated value	Deviation	Verdict
SEER	8.86	8.5	4.2%	P
SCOP(average)	4.62	4.6	0.4%	P
SCOP(warmer)	5.70	5.6	1.8%	P
Power consumption in thermostat off mode	N/A	N/A	N/A	N/A
Power consumption in standby mode	1.0 W	1.0 W	0%	P

Remark:

For the original qualification test, the rating values should be equal to or more unfavorable than the tested values.

Table 1

## Energy efficiency classes for air conditioners, except double ducts and single ducts

Energy Efficiency Class	SEER	SCOP
A+++	$SEER \geq 8,50$	$SCOP \geq 5,10$
A++	$6,10 \leq SEER < 8,50$	$4,60 \leq SCOP < 5,10$
A+	$5,60 \leq SEER < 6,10$	$4,00 \leq SCOP < 4,60$
A	$5,10 \leq SEER < 5,60$	$3,40 \leq SCOP < 4,00$
B	$4,60 \leq SEER < 5,10$	$3,10 \leq SCOP < 3,40$
C	$4,10 \leq SEER < 4,60$	$2,80 \leq SCOP < 3,10$
D	$3,60 \leq SEER < 4,10$	$2,50 \leq SCOP < 2,80$
E	$3,10 \leq SEER < 3,60$	$2,20 \leq SCOP < 2,50$
F	$2,60 \leq SEER < 3,10$	$1,90 \leq SCOP < 2,20$
G	$SEER < 2,60$	$SCOP < 1,90$

Table for sound power

indoor										
Test voltage / frequency	230 V / 50 Hz									
Air inlet temperature, DB/WB	27.0°C /19.0 °C									
Measured surface	6.28 m <sup>2</sup>									
Background Noise Level [dB]	18.0									
Microphone Position	1	2	3	4	5	6	7	8	9	10
L <sub>pi</sub> [dB]	41.5	41.8	41.7	42.3	42.2	41.6	41.5	42.1	41.4	41.5
L <sub>pmc</sub> / Averaged Sound Pressure Level [dB (A)]	41.77									
LW / Sound Power Level [dB (A)]	49.75									
Rated sound Power Level [dB (A)]	52									
Verdict	P									

outdoor					
Test voltage / frequency	230 V / 50 Hz				
Air inlet temperature, DB/WB	35.0 °C/24.0 °C				
Measured surface	25.13 m <sup>2</sup>				
Background Noise Level [dB]	18.0				
Microphone Position	1	2	3	4	5
L <sub>pi</sub> [dB]	46.5	46.3	46.2	46.1	47.2
L <sub>pmc</sub> / Averaged Sound Pressure Level [dB (A)]	46.48				
LW / Sound Power Level [dB (A)]	60.48				
Rated sound Power Level [dB (A)]	63				
Verdict	P				

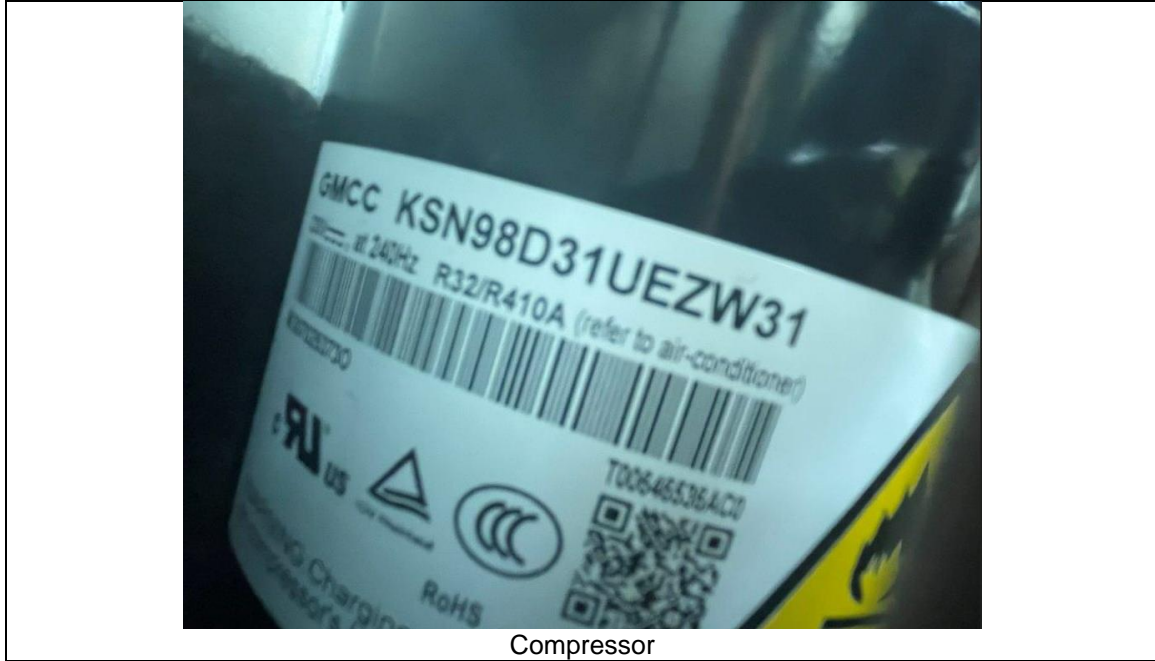
**Photos:**



Indoor



Outdoor unit



Compressor

End of report